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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,011	06/29/2006	Will A. Egner	CER-001	4100

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EXAMINER	
BAIRD, EDWARD J	

ART UNIT	PAPER NUMBER
3695	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/585,011	EGNER ET AL.	
	Examiner	Art Unit	
	Ed Baird	3695	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,22-31,43,44 and 53-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,22-31,43,44 and 53-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **06 April 2011** has been entered.

Status of Claims

2. Applicant has amended claims 7, 9 and 28. No claims have been added or canceled. Claims 11-21, 32-42 and 45-52 were canceled prior to last office action. Thus, claims 1-10, 22-31, 43, 44 and 53-58 remain pending and are presented for examination.

Response to Arguments

3. Applicant's arguments and amendments filed on **06 April 2011** with respect to

- objection to claim 9, and
- rejections of claims 1-10, 22-31, 43, 44 and 53-58 under 35 U.S.C. § 103(a),

have been fully considered.

4. Examiner acknowledges amendments to claim 9 to overcome claim objection and, in turn, withdraws objection.

5. Applicant's arguments filed with respect to claims 1-10, 22-31, 43, 44 and 53-58 regarding the 35 U.S.C. § 103(a) rejections have been fully considered but they are not persuasive.

6. Examiner acknowledges the Declaration of Dr. Charles Bernardin filed 06 April 2011 under 37 C.F.R. § 1.132 with the response to the previous office action. Examiner

notes that statements in 37 C.F.R. § 1.132 declaration are cited in Applicant's remarks which will be used for referencing arguments.

7. Applicant argues **Adduci** is directed to investment for an entire geographic region of a cellular network, while **Egner** (i.e. the instant application) is directed to investment for an individual sector in a cellular network [Remarks page 12, last paragraph]. However, Examiner respectfully disagrees in that this is merely a statement of intended use.

A recitation of intended use or purpose of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use or fulfilling said purpose, then it meets the claim.

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

(A) statements of intended use or field of use,

(B) "adapted to" or "adapted for" clauses,

(C) "wherein" clauses, or

(D) "whereby" clauses.

This list of examples is not intended to be exhaustive. See also MPEP § 2111.04.

8. Applicant argues that a sector as claimed by Applicant to be physically much smaller than and functionally very different from the geographic region of **Adduci**

[Remarks page 13, top of page]. Applicant further argues that **Adduci** is directed to evaluating investment of wireless services for a broad geographic region, while **Egner** is directed to evaluating capital investment in individual sectors [Remarks page 13, 2nd paragraph]. Again, Examiner disagrees in that these are also statements of intended use. Further, the argument citing "*physically much smaller*" and "*broad geographic region*" are not precise statements of ***size*** to which the Applicant is suggesting. It does not apprise one having ordinary skill in the art of the metes and bounds of the claimed invention. Argument is unclear in reference to sector sizes.

9. Examiner notes too that, based on the broadest reasonable interpretation of the term "sector", a sector can include a particular geographic region such as a country or a portion thereof - **Adduci** [column 6 lines 3-6], market sectors related to demographics, also disclosed by **Adduci** [column 6 lines 7-32], or "physically *much smaller than* [sic] and functionally *very different from* [sic] the geographic region of **Adduci**" as argued [Remarks page 13, top of page] but ***not*** specifically claimed by Applicant.

10. Applicant further argues that **Adduci** would assist a wireless carrier's business and financial organizations in determining whether to deploy a new service, e.g., UMTS, in a country, city or metropolitan area, while **Egner** would assist a network engineering organization in determining which sector to add capital investment [Remarks page 13, last full paragraph]. Again, while Examiner maintains that this too is a statement of intended use, it appears "deploying a new service" and "determining which sector to add capital investment" are effectively the *same* use.

11. Applicant asserts that, in view of arguments presented above, **Adduci**, **Cossins** and **Elliott** do not teach "determining... an investment return per sector" as claimed by Applicant [Remarks page 14, 1st full paragraph]. However, Examiner respectfully maintains position as discussed above.

Applicant Admitted Prior Art

12. Applicant has failed to traverse the Examiner's **Official Notice** given in the Office Action mailed **27 August 2009** regarding the well known nature of dependent claims 2, 3, 23 and 24. Hence, the limitations:

- *marketing costs* and *maintaining existing customers* are indicative of **subscriber contracts**, and
- subscriber profit proxy is based on expected duration of a subscriber contact.

is now taken to be **applicant's admitted prior art** (**AAPA**) as per MPEP 2104 C.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1, 4, 22, 25 and 53, 54, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci et al** (US Patent No. 7,343,334) in view of **Cossins et al** (US Pub. No. 2003/0083073) in further view of **Elliott** (US Patent No. 7,158,790).

15. Regarding **claims 1 and 22, Adduci** teaches:

- determining, using a computer system, a subscriber profit proxy for a plurality of subscribers in the wireless network - *see at least* [column 15 lines 6-8] and [column 16 lines 9-28] - Examiner interprets *net present value (NPR)* and *return on investment* as indicative of Applicant's *subscriber profit proxy*;

- determining, using the computer system, a number of minutes of use over a period of time for one or more of the subscribers [column 8 line 52-column 9 line 3];
- determining, using the computer system, an investment return per sector for the first sector and each of the one or more other sectors in the wireless network, wherein the investment return is based upon the subscriber profit proxy for the plurality of subscribers, the number of minutes of use over the period of time for the one or more of the subscribers - *see at least* [column 16 lines 9-53] – Examiner interprets *return on investment (ROI)* as analogous to Applicant's *investment return per sector*. Examiner notes applying *financial analysis* to different *geographic regions* as indicative of Applicant's application to *one or more of the sectors*.
  and the service quality metric per sector in the wireless network [discussed below]; and
- selecting one of the sectors in the wireless network for capital investment, the selecting based at least in part on the investment return per sector [column 16 lines 38-53] – "*procurement of telecommunications infrastructure*".
- using a computer system to accomplish above limitations - [column 4 lines 4-15].
- a computer program product having a computer program product for accomplishing these steps (*claim 22*) - *see at least* [column 2 lines 30-44] and [column 5 lines 26- 43].

Adduci discloses equipment including *antennas* used for wireless communications service in a particular geographic region [column 7 lines 4-20]. However, he does not explicitly disclose:

- the wireless network comprising multiple cell sites, each cell site having a coverage area divided into sectors, each sector having at least one cell site antenna serving- that sector, the wireless network thereby comprising multiple sectors.

However, **Cossins** teaches a system for managing a cell network comprising geographic elements and network elements [0003]. He further discloses *a cell site having three sectors, one for each of three antennas* [see at least 0144].

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *cell sites with coverage divided into sectors, each sector having a cell site antenna* as taught by **Cossins** because performance elements may be parsed into a third of a circle or concentric ring, and can be generated for each of the three sectors [**Cossins** 0144].

Neither **Adduci** nor **Cossins** explicitly discloses:

- determining, using the computer system, a service quality metric per sector for a first sector in the wireless network;
- determining, using the computer system, a service quality metric per sector for one or more other sectors in the wireless network;

However, **Elliott** teaches *a system for improving the service coverage of wireless networks by making measurements of the service coverage of the wireless network* [column 2 lines 30-44], [column 4 lines 56-67] and [claim 1]. He further discloses *gathering information indicating quality of service coverage and determining actual service coverage of the wireless network in real-time according to actual demand for service - see at least* [column 2 lines 45 – 61]. Examiner interprets *demand for service* as *further* indicative of Applicant's *number of minutes of usage of the subscribers.*

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *quality of service coverage and a demand for service* as taught by **Elliott** because these features can provide an improvement in the service coverage of wireless networks - **Elliott** [column 2 lines 30 – 35].

16. Regarding **claims 4 and 25, Adduci** teaches:

- the minutes of use over the period of time is based on call detail records collected during peak usage periods - *see at least* [column 6 lines 42-60].

17. Regarding **claim 53 and 57,** the limitation:

- selecting additional wireless network sectors for capital investment.

is not further limiting in as much as is merely repeating of steps (i.e. selecting more than one), and does not add patentable weight. As per *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960), as discussed supra.

18. Regarding **claim 54 and 58,** the limitation:

- wherein the one of the wireless network sectors is served by a first base transceiver station (BTS) in the wireless network, and wherein the selecting one of the wireless network sectors for capital investment further comprises selecting all sectors served by the first BTS for capital investment

is not further limiting in as much as is merely repeating of steps (i.e. selecting more than one), and does not add patentable weight. As per *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960), as discussed supra.

19. Claims 2, 3, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Cossins** in further view of **Elliott** and in further view of **AAPA**.

20. Regarding **claims 2 and 23, Adduci** teaches:

- revenue collected from the subscriber, an expected number of months under a contract, an acquisition cost, and, a service delivery cost - *see at least* [column 5 lines 38-54]

AAPA teaches Applicant's *subscriber contracts* in wireless communication services.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *subscriber contracts* because one skilled in the art at the time of the instant invention would be aware of such contracts in wireless communication services.

21. Regarding **claim 3 and 24, Adduci** teaches:

- subscriber profit proxy (SPP) value determined by the equation:

  $SPP_i = V_i * M_i - A_i - S_i$

  wherein

- V_i is the revenue per month for subscriber i - see at least [column 5 lines 26-43];
- M_i is the expected months for subscriber i [Id.];
- A_i is the acquisition cost for subscriber i [Id.]; and
- S_i is the service delivery cost for subscriber I [Id.].

Examiner interprets *revenue segment* as indicative of Applicant's *revenue per month* and *months* of service. Examiner interprets *investment, start-up costs, and marketing, advertising and promotional costs* as indicative of Applicant's *acquisition cost.*

Examiner interprets *maintenance costs for supporting the enhanced wireless services* as indicative of Applicant's **service delivery cost**.

AAPA teaches *expected duration of a subscriber contract*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *expected duration of a subscriber contract* because such contracts are used to guarantee future revenue.

22. Claims 5-10, and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Cossins** in further view of **Elliott** in further view of **Weller et al** (US Patent No. 7,107,224).

23. Regarding **claims 5, 6, 26 and 27,** neither **Adduci, Cossins** nor **Elliott** explicitly discloses:

- the service quality metric per sector comprising a dropped call rate per sector; and
- the dropped call rate per sector determined from call detail records.

However, **Weller** teaches a system and method of value-driven build-to-buy decision analysis which includes a demand component and a supply component [column 1 lines 55-65]. She applies her system and method to "self-service buying" of cellular phone service over the internet - see at least [column 5 lines 48-56]. She discloses using parameters such as area of usage, minutes per month of usage, and the number of calls that get dropped [column 5 line 61-column 6 line 20]. She further uses these parameters to develop "components of value" for the customer - see at least [column 7 lines 3-38]. These include the intangible costs (based on the customer's willingness to pay) of having no coverage and experiencing dropped calls. Examiner interprets that

intangible cost related to dropped calls as analogous to Applicant's *service quality metric*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *accounting for dropped call rates* as taught by **Weller** because, by accounting for such *quality* issues, a customer can make meaningful comparisons between the intangible values of "quality" and "coverage" and the tangible value of "cost" - **Weller** [column 6 lines 9-20].

24. Regarding **claims 7 and 28, Weller** teaches the limitations:

- determining a profit per sector;
- determining an investment needed per sector to reduce dropped calls in each sector;
- determining the investment return per sector based at least in part on the profit per sector, and the dropped-call rate per sector.

as discussed in the rejections of claims 5, 6, 26 and 27, above. **Weller** does not explicitly disclose:

- determining the investment needed per sector to reduce dropped calls in each sector.

However, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Weller's** disclosure to include *determining the investment needed to recover dropped calls* because such intangible costs are determined in order that they may be corrected.

25. Regarding **claims 8 and 29, Adduci** teaches determining the profit per sector by summing the subscriber profit proxy value for each subscriber - *see at least* [column 15 lines 5-50] and [column 16 lines 9 -28]. Examiner interprets revenue analysis which

includes *average revenue per user per month by customer segment* as indicative of Applicant's *profit per sector.*

Neither **Adduci** nor **Cossins** explicitly discloses determining a profit based on the ratio of minutes usage in one sector to minutes usage in all sectors. However, **Elliott** discloses *determining actual service coverage of the wireless network in real-time according to actual demand for service - see at least* [column 2 lines 45 – 61]. Examiner interprets *demand for service* as indicative of Applicant's *number of minutes of usage of the subscribers*, as discussed in the rejection of claims 1 and 22. Accordingly, these claims are rejected for the same reasons.

26. **Claims 9 and 30** are substantially similar to claims 7 and 28, respectively, and are thus rejected for the same reasons.

27. Regarding **claims 10 and 31, Weller** teaches the limitations:

- the selecting one of the wireless network sectors for capital investment is performed at least in part by prioritizing the sectors based upon the investment return determined for each respective sector - *see at least* [column 10 lines 1-7].

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *prioritize investments* as taught by **Weller** because it allows companies to get the best possible returns - **Weller** [column 10 lines 1-7].

28. Claims 43, 44, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adduci** in view of **Cossins** in further view of **Elliott** in further view of **Scheinert** (US Patent No. 5,787,344).

29. Regarding **claims 43 and 55,** neither **Adduci, Cossins** nor **Elliott** explicitly discloses:

- deploying additional equipment to a base transceiver station (BTS) serving the selected one of the sectors, based at least in part on the selecting one of the wireless network sectors for capital investment.

However, **Scheinert** teaches an *arrangement and method of arranging base transceiver stations and a method of subsequently compressing an existing continuous radio network* [column 1 lines 5-12]. He further discloses *compressing an already existing radio network* [column 5 lines 46-48].

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to modify **Adduci's** disclosure to include *modifying the wireless network by deploying additional equipment to a base transceiver station* as taught by **Scheinert** because by modifying existing base transceiver stations is not as costly as investing in "new sites" - **Scheinert** [column 5 lines 46-63].

30. Regarding **claims 44 and 56, Adduci** teaches the additional equipment is selected from the group consisting of: a radio tower, an antenna, a radio, a cable, and combinations thereof - *see at least* [column 7 lines 4-20].

Conclusion

31. The prior art of record and not relied upon is considered pertinent to Applicant's disclosure:

- **Wegner:** "Apparatus method and systems relating to a wireless geographical positioning system including a system for monitoring and analyzing characteristics of a wireless telecommunications network", (US Patent No. 6,463,287).

This is an RCE of applicant's earlier Application No. 10/585,011. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ed Baird whose telephone number is (571)270-3330. The examiner can normally be reached on Monday - Thursday 7:30 am - 5:00 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles R. Kyle can be reached on 571-272-6746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ed Baird/
Examiner, Art Unit 3695

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